SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Substance
Physical state: Liquid
Substance name: CARBINOL (HYDROXYL) TERMINATED POLYDIMETHYLSILOXANE
Product code: DMS-C21
Synonyms: HYDROXY TERMINATED POLYDIMETHYLSILOXANE; POLY(DIMETHYLSILOXANE), HYDROXYETHOXYPROPYL TERMINATED
Chemical family: ORGANOSILOXANE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: Chemical intermediate
For research use only

1.3. Details of the supplier of the safety data sheet

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Not classified

2.2. Label elements

GHS-US labeling
No labeling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type: Polymer
Name: CARBINOL (HYDROXYL) TERMINATED POLYDIMETHYLSILOXANE
CAS No: 156327-07-0

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbinol (hydroxyl) terminated polydimethylsiloxane</td>
<td>(CAS No) 156327-07-0</td>
<td>&gt; 95</td>
<td>Not classified</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>(CAS No) 556-67-2</td>
<td>&lt; 2</td>
<td>Flm. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Eye Irrit. 2B, H320</td>
</tr>
</tbody>
</table>

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact: Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion: Never give anything by mouth to an unconscious person. Get medical advice/attention.

### 4.2. Most important symptoms and effects, both acute and delayed

#### Symptoms/injuries after inhalation:
No information available.

#### Symptoms/injuries after skin contact:
May cause skin irritation.

#### Symptoms/injuries after eye contact:
May cause eye irritation.

#### Symptoms/injuries after ingestion:
No information available.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media:** Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.

**Unsuitable extinguishing media:** None known.

#### 5.2. Special hazards arising from the substance or mixture

**Fire hazard:** Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

**Protective equipment:** Wear protective equipment as described in Section 8.

**Emergency procedures:** Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

**Protective equipment:** For further information refer to section 8: "Exposure controls/personal protection”. Equip cleanup crew with proper protection. Do not attempt to take action without suitable protective equipment.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

**For containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Methods for cleaning up:** Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Precautions for safe handling:** Avoid all eye and skin contact and do not breathe vapor and mist.

**Hygiene measures:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

#### 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions:** Keep container tightly closed. Store in a cool area. Store in a dark area.

**Incompatible materials:** Oxidizing agent.

**Storage area:** Store in a well-ventilated place. Store away from heat.

#### 7.3. Specific end use(s)

No additional information available
SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Appropriate engineering controls: Provide local exhaust or general room ventilation.
Personal protective equipment: Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hand protection: Neoprene or nitrile rubber gloves.
Eye protection: Chemical goggles. Contact lenses should not be worn.
Skin and body protection: Wear suitable protective clothing.
Respiratory protection: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Liquid
Appearance: Clear liquid.
Molecular mass: 4500 - 5500 g/mol
Color: No data available
Odor: No data available
Odor threshold: No data available
Refractive index: 1.407
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: < -60 °C
Freezing point: No data available
Boiling point: > 205 °C
Flash point: > 110 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: No data available
Relative vapor density at 20 °C: No data available
Relative density: 0.98
VOC content: < 5 %
Solubility: Insoluble in water.
Log Pow: No data available
Log Kow: No data available
Viscosity, kinetic: 110 - 140 cSt
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidizing properties: No data available
Explosion limits: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
Heat. Open flame. Sparks.
CARBINOL (HYDROXYL) TERMINATED POLYDIMETHYLSILOXANE
Safety Data Sheet

10.5. Incompatible materials
Oxidizing agent.

10.6. Hazardous decomposition products
Organic acid vapors. Silicon dioxide.

SECTION 11: Toxicological information
11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1540 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>1770 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>794 µl/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>36 g/m³ (Exposure time: 4 h)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>1540.000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>1770.000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>36.000 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
<td>36.000 mg/l/4h</td>
</tr>
</tbody>
</table>

| Skin corrosion/irritation                  | Not classified |
| Serious eye damage/irritation              | Not classified |
| Respiratory or skin sensitization         | Not classified |
| Germ cell mutagenicity                    | Not classified |
| Carcinogenicity                           | Not classified |
| Reproductive toxicity                     | Not classified |
| Specific target organ toxicity (single exposure) | Not classified |
| Specific target organ toxicity (repeated exposure) | Not classified |

11.2. Information on ecotoxicological effects

<table>
<thead>
<tr>
<th>Octamethylcyclotetrasiloxane (556-67-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
<tr>
<td>LC50 fish 2</td>
</tr>
</tbody>
</table>

12.1. Toxicity

<table>
<thead>
<tr>
<th>Octamethylcyclotetrasiloxane (556-67-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Octamethylcyclotetrasiloxane (556-67-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
</tr>
<tr>
<td>BCF fish 1</td>
</tr>
<tr>
<td>Log Pow</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects

| Effect on ozone layer                  | No additional information available |
| Effect on the global warming           | No known ecological damage caused by this product. |

SECTION 13: Disposal considerations
13.1. Waste treatment methods

| Waste disposal recommendations         | Do not dispose of waste into sewer. |
| Ecology - waste materials              | Avoid release to the environment. |

08/24/2015 EN (English US) SDS ID: DMS-C21
### SECTION 14: Transport information

14.1. UN number

Not regulated for transport.

14.2. UN proper shipping name

Not applicable.

14.3. Additional information

Other information: No supplementary information available.

**Transport by sea**

No additional information available.

**Air transport**

No additional information available.

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>CARBINOL (HYDROXYL) TERMINATED POLYDIMETHYLSILOXANE (156327-07-0)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA Exemption/Exclusion</td>
<td>CAUTION: This material is supplied for research and development purposes subject to the R&amp;D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a &quot;technically qualified individual&quot; as defined by 40 CFR 720.3(ee). The use of this material for &quot;commercial purposes&quot; as defined by 40 CFR 720.3(r) is not permitted in the United States.</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane (556-67-2)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>EPA TSCA Regulatory Flag</td>
<td>T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.</td>
</tr>
<tr>
<td>Carbinol (hydroxyl) terminated polydimethylsiloxane (156327-07-0)</td>
<td>Not listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

#### 15.2. International regulations

- Octamethylcyclotetrasiloxane (556-67-2)
  - Listed on the AICS (Australian Inventory of Chemical Substances)
  - Listed on the Canadian DSL (Domestic Substances List)
  - Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
  - Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
  - Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
  - Listed on the Korean ECL (Existing Chemicals List)
  - Listed on NZIoC (New Zealand Inventory of Chemicals)
  - Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
  - Listed on INSQ (Mexican national Inventory of Chemical Substances)
  - Listed on the Turkish inventory of chemical

### 15.3. US State regulations

#### CARBINOL (HYDROXYL) TERMINATED POLYDIMETHYLSILOXANE (156327-07-0)

<table>
<thead>
<tr>
<th>State</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
<td>No</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
<td>No</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
<td>No</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
<td>No</td>
</tr>
</tbody>
</table>

#### Octamethylcyclotetrasiloxane (556-67-2)

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<tr>
<th>State</th>
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<td>No</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
<td>No</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
<td>No</td>
</tr>
</tbody>
</table>

No significance risk level (NSRL)

#### Carbinol (hydroxyl) terminated polydimethylsiloxane (156327-07-0)

<table>
<thead>
<tr>
<th>State</th>
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</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
<td>No</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
<td>No</td>
</tr>
</tbody>
</table>

No significance risk level (NSRL)
CARBINOL (HYDROXYL) TERMINATED POLYDIMETHYLSILOXANE

Safety Data Sheet

Carbinol (hydroxyl) terminated polydimethylsiloxane (156327-07-0)

| No | No | No | No |

SECTION 16: Other information

Indication of changes: Applied changes to sections 4, 7.1-7.2 and 8.1. Added statement to section 13 and 6.3.

Abbreviations and acronyms:
- Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Dermal)</th>
<th>Acute toxicity (dermal) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral) Category 4</td>
</tr>
<tr>
<td>Eye Irrit. 2B</td>
<td>Serious eye damage/eye irritation Category 2B</td>
</tr>
<tr>
<td>Flam. Liq. 3</td>
<td>Flammable liquids Category 3</td>
</tr>
<tr>
<td>H226</td>
<td>Flammable liquid and vapor</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin</td>
</tr>
<tr>
<td>H320</td>
<td>Causes eye irritation</td>
</tr>
</tbody>
</table>

HMIS III Rating

Health: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability: 1 Slight Hazard
Physical: 0 Minimal Hazard

Prepared by safety and environmental affairs.

Date of issue: 10/29/2014 Revision date: 08/24/2015 Version: 1.1

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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